Space Weather Forecast

Issued on Monday, 06 June 2022 at 01:26 Local

This forecast provides a four day assessment of space weather events. The probabilities stated below are for reaching or exceeding the given levels. For more information about space weather impacts please see the Met Office Space Weather Scales https://www.metoffice.gov.uk/weather/learn-about/space-weather/uk-scales

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Space Weather Forecast Headline: Chance of Minor to Moderate Storm intervals 06 June from two possible CME arrivals.

Analysis of Space Weather Activity over past 24 hours
Solar Activity: Solar activity has been Low over the last 24 hours, with one Common-class flare emanating from the vicinity of a weak alpha region in the southeast quadrant, with a possible associated coronal mass ejection, although this is not expected to be Earth-directed. Four remaining spots on the disc are all weak and benign. No Earth-directed CMEs were observed.

Solar Wind / Geomagnetic Activity: The solar wind has been at consistently background levels. Total magnetic field strength and the north-south component were weak, but suggested a weak CME passage, although the data was inconclusive. Geomagnetic activity was Quiet (Kp 0-2).

Energetic Particles / Solar Radiation: The count rate of solar energetic particles (high energy protons) remained at background with no solar radiation storms observed.

Four-Day Space Weather Forecast Summary
Solar Activity: Solar activity is expected to be Low to Very Low, with only a very slight chance of Moderate activity.

Solar Wind / Geomagnetic Activity: Two CMEs which left the Sun on 01 and 02 June may glance the Earth early on 06 June, with limited evidence that they may have already affected the Earth's magnetic field. A third CME from 04 June may affect the Earth on 07 or 08 June, but again with low confidence in the forecast. No fast solar winds are expected to connect in the forecast period, with ambient solar winds dominating. Geomagnetic activity is forecast to be predominately Quiet, but increasing to Unsettled to Active should any CME arrivals occur. These will also give a chance of isolated G1-G2 Minor to Moderate storms, especially on 06 June.

Energetic Particles / Solar Radiation: The count rate of solar energetic particles (high energy protons) is forecast to remain at background with no solar radiation storms occurring.

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Geomagnetic Storms:

Geo-Magnetic Storm Probability (Exceedance)	Level	Past 24 Hours (Yes/No)	Day 1 (00-24 UTC) (%)	Day 2 (00-24 UTC) (%)	Day 3 (00-24 UTC) (%)	Day 4 (00-24 UTC) (%)
Minor or Moderate	G1 to G2	No	30	5	5	1
Strong	G3	No	1	1	1	1
Severe	G4	No	1	1	1	1
Extreme	G5	No	1	1	1	1

Radio Blackouts - X Ray Flares:

X Ray Flares Probability	Level	Past 24 Hours (Yes/No)	Day 1 (00-24 UTC) (%)	Day 2 (00-24 UTC) (%)	Day 3 (00-24 UTC) (%)	Day 4 (00-24 UTC) (%)
Active	R1-R2 M Class	No	5	5	5	5
Very Active	R3 to R5 X	No	1	1	1	1

Solar Radiation Storms - (High Energy Protons):

Radiation Storms Probability (Exceedance)	Level (cm^{-2} sr^{-1} s^{-1})	Past 24 Hours (Yes/No)	Day 1 (00-24 UTC) (%)	Day 2 (00-24 UTC) (%)	Day 3 (00-24 UTC) (%)	Day 4 (00-24 UTC) (%)
Active	≥ S1	No	1	1	1	1
Very Active	≥ S3 *	No	1	1	1	1

* S3 ≥ 10 MeV ≥ 1000 pfu and / or ≥ 50 MeV ≥ 10 pfu. (pfu = $cm^{-2}sr^{-1}s^{-1}$)

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